



Amendments to the claims:

Please replace all prior versions and listings of the claims with the following amended claims:

- 1 1. (Original) A method of treating a pathogen within an oral cavity, the method comprising:
2 a. locating one or more pathogens within the oral cavity; and
3 b. irradiating target tissue within the oral cavity with pulsed laser light having an
4 energy of 10 Joules/cm² or greater per pulse.
- 1 2. (Original) The method of claim 1, wherein the pulsed laser light comprises a wavelength
2 in a range of 580 to 1800 nanometers.
- 1 3. (Original) The method of claim 1, wherein the target tissue is selected from the group
2 consisting of hard periodontal tissue and soft periodontal tissue.
- 1 4. (Original) The method of claim 2, wherein the target tissue corresponds to a volume
2 soft periodontal tissue.
- 1 5. (Original) The method of claim 4, wherein the soft tissue corresponds to soft periodontal
2 tissue is within a periodontal pocket.
- 1 6. (Original) The method of claim 1, wherein the target tissue is irradiated with the pulsed
2 laser light through an optical fiber.
- 1 7. (Original) The method of claim 6, wherein the optical fiber is placed within a periodontal
2 pocket.
- 1 8. (Currently Amended) The method of claim 6, wherein the optical fiber has a fiber
2 diameter in a range of 0.05 to 3.0 mm.
- 1 9. (Original) The method of claim 1, wherein the target tissue is irradiated with a fluence of
2 the pulsed laser light that is 350 Joule/cm² or greater.

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1 10. (Currently Amended) The method of claim 1, wherein ~~the~~ an area of the target tissue is
2 irradiated with 2 Joules of more of pulsed laser light.

1 11. (Currently Amended) The method of claim 1, wherein ~~the~~ an area of the target tissue is
2 irradiated with the pulsed laser light for less than 1.0 second.

1 12. (Original) The method of claim 3, further comprising debridement of the target tissue
2 prior to the step of irradiating target tissue.

1 13. (Original) The method of claim 1, wherein the one or more pathogens include a
2 pigmented gram (-) anaerobe.

1 14. (Currently Amended) The method of claim ~~[[1]]~~ 13, wherein the pigmented gram (-)
2 anaerobe is selected from the group consisting of phorphyromonas gingivalis (*Pg*) and
Al prevotella intermedia (*Pi*).
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1 15. (Original) The method of claim 1, wherein one or more pathogens includes a pigmented
2 fungus.

1 16. (Original) The method of claim 15, wherein the pigmented fungus is a fungus selected
2 from the group consisting of Histoplasma and Aspergillus Niger.

1 17. (Currently Amended) The method of claim 1, further comprising staining the ~~bacteria~~ one
2 or more pathogens.

1 18. (Currently Amended) The method of claim 1, wherein a substantial portion of the one or
2 more pathogens is eradicated.

1 19. (Currently Amended) The method of claim 18, further comprising testing for the presence
2 of ~~a portion of~~ the one or more pathogens with a culture.

- 1 20. (Original) A method of treating a periodontal pocket comprising:
2 a. generating a sequence of laser pulses at an absorption wavelength; and
3 b. directing the laser pulses to the periodontal tissue such that at least a portion of
4 bacteria within the periodontal tissue is eradicated.
- 1 21. (Currently Amended) The method of claim 20, wherein the periodontal tissue is selected
2 ~~form~~ from the group ~~containing~~ consisting of dentin, cementum, bone and gum tissue.
- 1 22. (Currently Amended) The method of claim 20, wherein the laser pulses are directed to the
2 periodontal tissue ~~[[is]]~~ within a periodontal pocket and wherein the laser pulses penetrate
3 through soft tissue surrounding the periodontal pocket.
- 1 23. (Currently Amended) The method of claim 22, wherein the laser ~~pules~~ pulses penetrate
2 soft periodontal tissue ~~the~~ surrounding soft the periodontal pocket by a distance of 1.0
3 mm or more.
- 1 24. (Original) The method of claim 20, wherein the laser pulses are generated with a
2 Nd:YAG laser.
- 1 25. (Original) The method of claim 20, wherein the laser pluses have energy concentrations
2 of 17 Joules/cm² per pulse or greater.
- 1 26. (Original) The method of claim 20, wherein the laser pulses are directed to the
2 periodontal tissue from an optical fiber.
- 1 27. (Original) The method of claim 26, wherein the optical fiber has a fiber diameter in a
2 range of 0.5 to 3.0 mm.
- 1 28. (Original) The method of claim 20, wherein the bacteria is a pigmented gram (-)
2 anaerobe.
- 1 29. (Currently Amended) The method of claim ~~[[20]]~~ 28, wherein the pigmented gram (-)
2 anaerobe is selected form the group consisting of phorphyromonas gingivalis (*Pg*) and
3 prevotella intermedia (*Pi*) and a pigment fungi.

1 30. (Original) The method of claim 20, wherein directing the laser pulses to the periodontal
2 tissue also eradicates a portion of a pigmented fungus within the periodontal tissue.

1 31. (Original) The method of claim 30, wherein the pigmented fungus is a fungus selected
2 from the group consisting of Histoplasma and Aspergillus Niger.

1 32. (Currently Amended) The method of claim 20, further comprising applying a staining
2 agent within ~~the~~ a periodontal pocket, wherein the staining agent stains for the presence
3 of living bacteria.

1 33-42. (Canceled).
